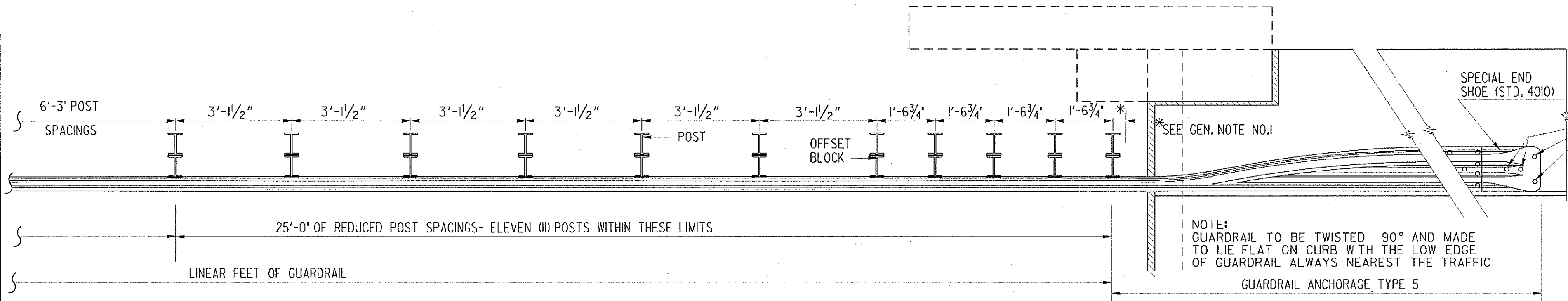


GUARDRAIL ANCHORAGE TYPE 5

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	BRMLB-9004-00(008)	566	701

NOTE:
STEEL POSTS AND STEEL OFFSET BLOCKS
ARE DEPICTED IN THE DETAILS.



PLAN

DETAIL "A"
ATTACHMENT OF SPECIAL END
SHOE ON A BRIDGE CURB

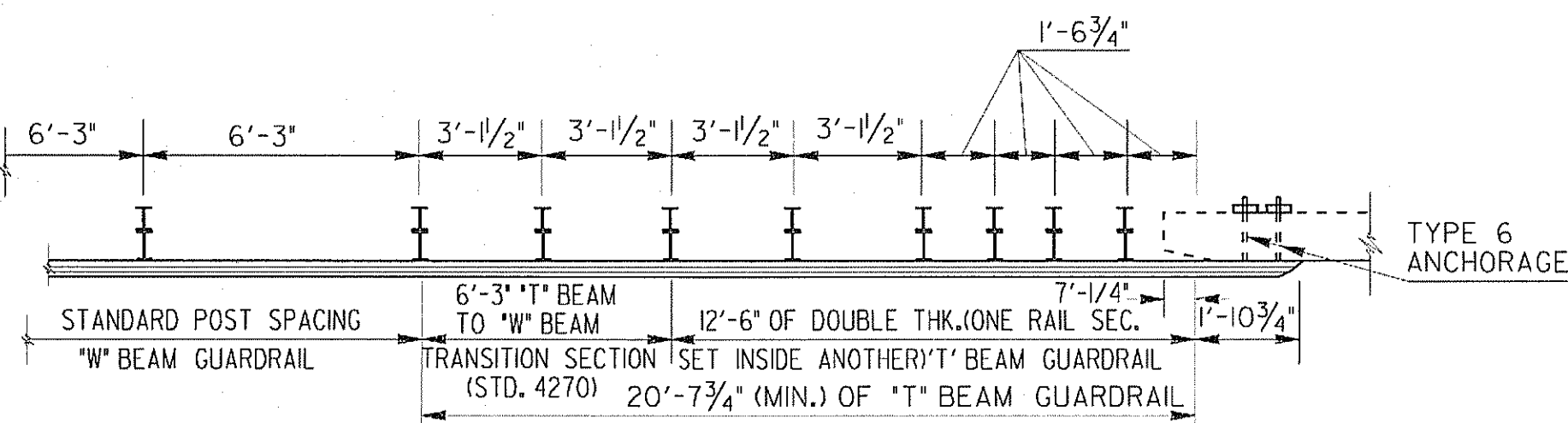
NOTE:
GUARDRAIL ANCHORAGE TYPE 5 IS FOR USE WHERE SPECIAL END SHOE IS
ATTACHED ON TOP OF BRIDGE CURB. THIS WILL GENERALLY BE WHERE
CURB OR AT EXISTING BRIDGE ENDS ON SAFETY IMPROVEMENT PROJECTS.
SEE APPLICABLE STANDARDS OR PLAN DETAILS.

NOTE:

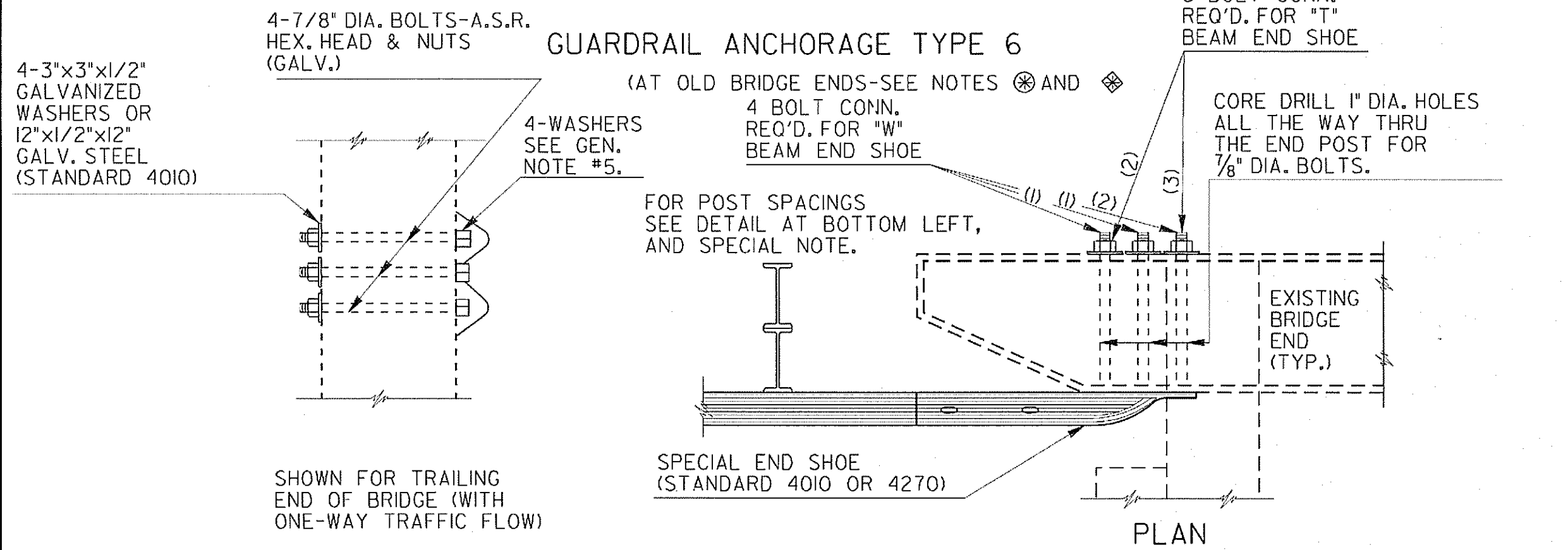
PAYMENT FOR ANCHORAGE TYPE 5 OR TYPE 6, AS SPECIFIED, INCLUDES
FIVE (5) BOLT CONNECTIONS (EITHER HOLES DRILLED THROUGH CONCRETE
OR ANCHOR BOLT INSTALLATIONS) WHERE "T" BEAM GUARDRAIL ATTACH-
MENT IS SPECIFIED OR FOUR (4) SUCH BOLT CONNECTIONS WHERE "W" BEAM
GUARDRAIL ATTACHMENT IS SPECIFIED.

SPECIAL NOTE:

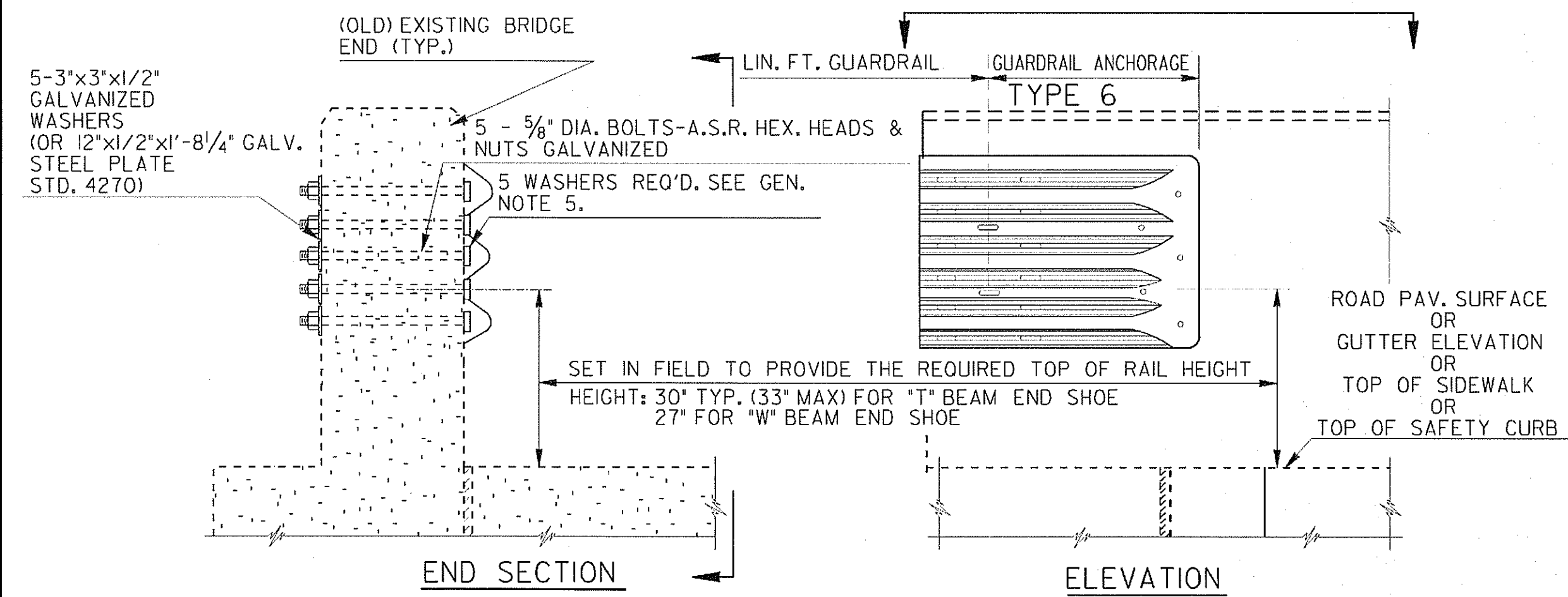
REDUCED POST SPACING WILL BE REQUIRED AS SHOWN EXCEPT AT THE TRAILING END OF ONE-WAY
TRAFFIC FLOW IN WHICH CASE NORMAL POST SPACING (6'-3" C. TO C. MAX.) MAY BE RETAINED.
PAYMENT FOR GUARDRAIL INCLUDES ALL ADDITIONAL POST AND OFFSET BLOCKS REQUIRED.
PAYMENT FOR "T" BEAM GUARDRAIL ALSO INCLUDES THE EXTRA RAIL ELEMENT WHERE DOUBLE THICK-
NESS IS SPECIFIED.



DETAILS OF SPACINGS FOR ADDITIONAL POSTS AT TYPE 6 ANCHORAGE
(SEE ALSO SPECIAL NOTE ABOVE LEFT.)



PLAN



END SECTION

ELEVATION

DETAIL "C"

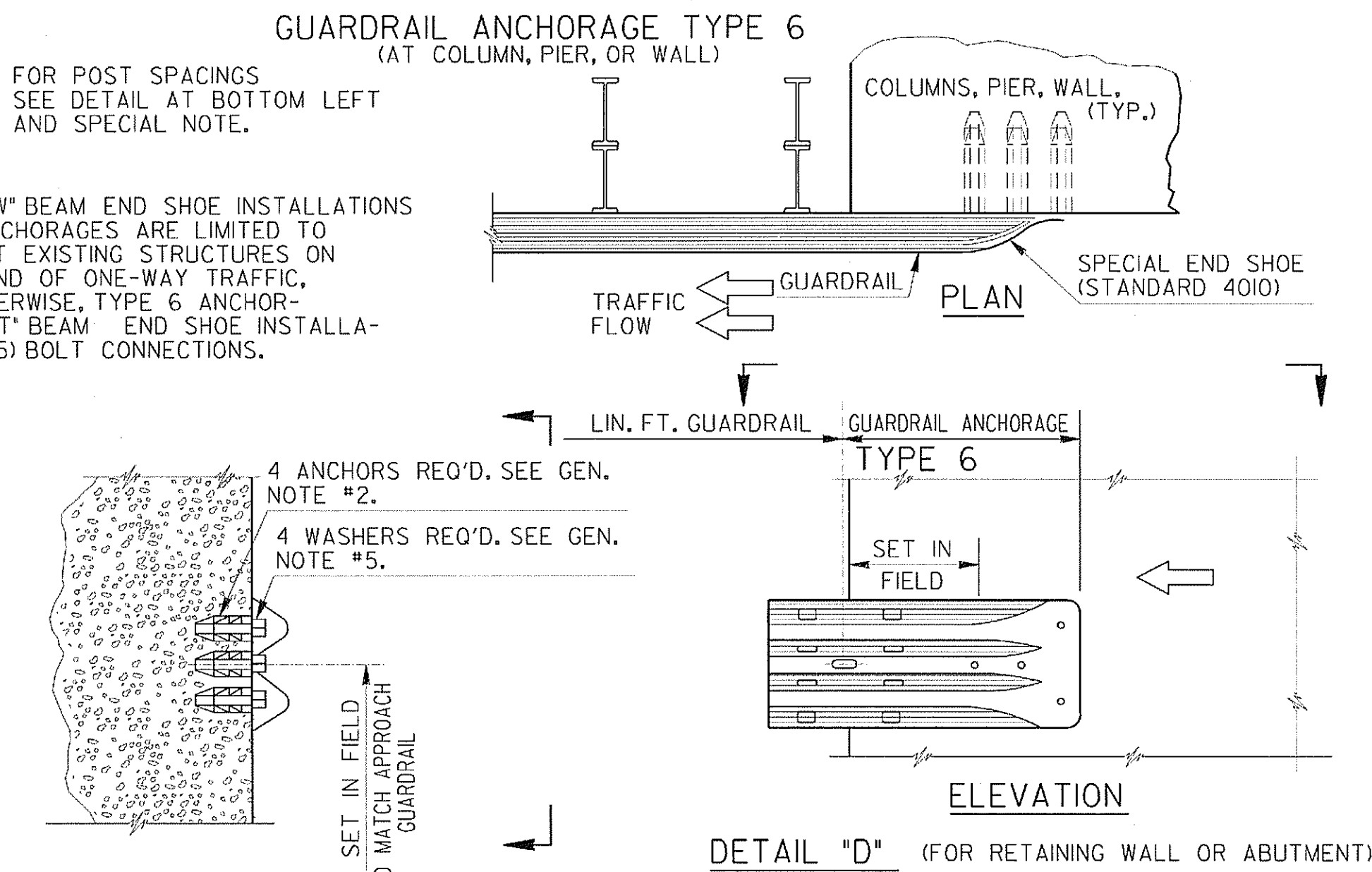
ATTACHMENT OF SPECIAL END SHOE
TO EXISTING CONCRETE END POST
(ANCHORS FOR BOLTS AS DESCRIBED IN NOTE 2 WILL NOT BE
PERMITTED WITH ATTACHMENTS SHOWN IN DETAIL "C".)

GENERAL NOTES:

1. THE FIRST POST IS TO BE PLACED AS CLOSE TO THE BRIDGE AS POSSIBLE BEING CAREFUL TO AVOID
DRIVING THE POST ON TOP OF THE PAVING REST.
- 2(a) THE SPECIAL END SHOE AT DETAILS "A" & "D" WILL BE ANCHORED WITH 5(OR 4) APPROVED TYPE
7/8" DIA. GALVANIZED ANCHOR BOLTS SUCH AS PHILLIPS WS-7880G WEDGE ANCHORS, U.S.E. 3455-2
TAPER BOLTS, PARABOLT PB-78 - CONCRETE ANCHORS, OR AN EQUAL APPROVED BY THE D.O.T.
LABORATORY. ATTACHMENT PER DETAIL "D" PERMITTED ONLY WHERE LACK OF ACCESS PREVENTS
ANCHOR ATTACHMENT PER DETAIL "C". ATTACHMENT PER CONC. INSERT ANCHOR ASSEMBLY (F-33-73,
A.R.T.B.A. TECH BULLETIN NO. 268.) MAY BE SUBSTITUTED IN DETAIL "D".
- (b) SELF DRILLING ANCHORS WILL NOT BE PERMITTED EXCEPT IN NON-REINFORCED CONCRETE.
OVER-SIZED DIAMETER DRILLED HOLES WILL NOT BE ALLOWED FOR ANCHOR INSTALLATIONS.
ALL CONCRETE ANCHOR BOLTS WILL BE INSTALLED EXACTLY AS RECOMMENDED BY THE MANUFACTURER.
IMPROPER INSTALLATIONS WILL BE CORRECTED AT CONTRACTOR'S EXPENSE. ANCHOR
INSTALLATIONS SHALL BE SUBJECT TO RANDOM HYDRAULIC PULL OUT TESTING. *** ALL
ANCHOR BOLTS WILL BE HOT-DIPPED GALVANIZED ACCORDING TO AASHTO M-III.
3. HOLES IN SAFETY CURBS ARE TO BE CAULKED TO AVOID WATER STANDING IN THEM.
4. STEEL POSTS AND STEEL OFFSET BLOCKS ARE DEPICTED IN THE DETAILS.
5. WASHERS FOR CONNECTING THE SPECIAL END SHOE TO CONCRETE FACE
ARE TO BE 7/8" MEDIUM GALVANIZED WASHER.
6. ALL MATERIAL NOT SPECIFIED SHALL MEET GA. D.O.T. SPECIFICATIONS AND/OR SPECIAL PROVISIONS,
AND WHERE POSSIBLE BE THE SAME AS IN THE ADJOINING GUARDRAIL. ALL HARDWARE TO BE GALVANIZED,
SAME AS REQUIRED FOR GUARDRAIL. ALL BOLTS AND NUTS SHALL CONFORM TO A.S.T.M. A-307.
7. THE PLACEMENT OF THE SPECIAL END SHOE ON TOP OF THE CURB IS LEFT TO THE DISCRETION OF
THE CONTRACTOR WITH THE RESTRICTION THAT IT BE FLUSH WITH THE EDGE OF THE CURB AND NO
MORE THAN 25" FROM THE LAST POST. THE TWISTED RAIL IN NO CASE WILL BE ALLOWED TO EXTEND
PAST THE FACE OF THE CURB.
8. PAYMENT FOR GUARDRAIL ANCHORAGE TYPE 5 OR TYPE 6 INCLUDES THE
INSTALLATION OF ANCHOR BOLTS OR DRILLING HOLES IN CONCRETE AS REQUIRED.
9. ANY CUTTING OR DRILLING IN GUARDRAIL SECTIONS SHALL BE REPAIRED WITH GALVANIZING
IN ACCORDANCE WITH GEORGIA STANDARD SPECIFICATIONS.
10. SEE STDS. 4010 & 401A FOR DETAILS OF GUARDRAIL ELEMENTS, POSTS, BLOCKS, ETC.

*** 5/8" DIA. ANCHOR INSTALLATIONS SHALL BE TESTED TO 3200 LBS. PULL
7/8" DIA. ANCHOR INSTALLATIONS SHALL BE TESTED TO 80% X 5000 = 4000 LBS. PULL. (EACH BOLT)

EACH ANCHOR INSTALLATION WILL BE CHECKED INDIVIDUALLY FOR BROKEN OR
IMPROPERLY INSTALLED BOLTS. ANY SUCH INSTALLATION WILL BE
CORRECTED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AT
NO ADDITIONAL COST TO THE DEPARTMENT.



END ELEVATION

(SHOWN FOR TRAILING END OF
ONE-WAY TRAFFIC FLOW)

NOTE: (C)

GUARDRAIL ANCHORAGE TYPE 6 IS FOR USE AT EXISTING BRIDGE
ENDS, COLUMNS, PIERS, WALLS, ETC., WHERE THE INSTALLATION
OF GUARDRAIL INVOLVES EITHER DRILLING HOLES IN THE
CONCRETE OR INSTALLING CONCRETE ANCHOR BOLTS FOR
THE PURPOSE OF ATTACHING THE SPECIAL END SHOE.

DO NOT SPECIFY GUARDRAIL ANCHORAGE TYPE 6 AT NEW
BRIDGE END POST (STD. 3054 TYPICAL), OR WHERE HOLES
HAVE BEEN PROVIDED IN CONCRETE FOR THE SPECIAL END
SHOE CONNECTION. IN THIS CASE, PAYMENT FOR LIN. FT. OF
GUARDRAIL WILL INCLUDE THE END SHOE CONNECTION AND
THESE DETAILS WILL NOT APPLY.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA			
STANDARD GUARDRAIL ANCHORAGE TYPE 5 & 6 AND GUARDRAIL ATTACHMENT TO COLUMNS, PIERS OR WALLS			
NO SCALE			
NOVEMBER 1980			
NUMBER 4013			
DES. F-70 E.E.L.	(SUBMITTED)	James H. Kinnel STATE ROAD & AIRPORT DESIGN ENGR.	
REV. R.M.J.	(APPROVED)	Paul V. Eubank STATE HIGHWAY ENGINEER	
TRA. G.M.E.			
CHK. R.K.C.			